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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,248	07/20/2000	Evert E. DeBoer	71493-688	3417

7380 7590 05/13/2004

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EXAMINER
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SAM, PHIRIN

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

P24

**Office Action Summary**

Application No.

09/620,248

Applicant(s)

DEBOER ET AL.

Examiner

Phirin Sam

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-9,12-17,20,21,24-27,30 and 33-41 is/are rejected.
- 7) ☒ Claim(s) 2,3,10,11,18,19,22,23,28,29,31 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2 and 3</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

DETAILED ACTION

*Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 38-41 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.

An invention may be patented only if it falls within one of the four statutory classes of subject matter of 35 U.S.C. § 101 with an exception to the judicially determined subject matter such as laws of nature, mathematical algorithms, scientific principles, physical phenomena, and abstract ideas. Some indirect evidence that congress intended to limit patentable subject matter to physical things and steps is found in 35 U.S.C. § 112, sixth paragraph in the MPEP. The sixth paragraph states that an element in a claim for a combination may be expressed as a “means or step” for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding “structure, material, or acts described in the specification and equivalents thereof.” This indicates that a limitation will normally recite “structure, material, or acts.” “Structure” and “material” indicate tangible physical things made of matter, not energy. “a data frame comprising: a transport overhead; and a synchronous payload envelope (SPE), the SPE comprising a path overhead and a payload” and “a data frame...” do not fit within the type of subject matter that was intended to be patented. If the “a data frame comprising: a transport overhead; and a synchronous payload envelope (SPE), the SPE comprising a path overhead and a payload” and “a data frame ...” are interpreted as an abstract arrangement “to be” transmitted, rather than a physical signal in transit

between a transmitter and receiver, the signal would not fit into any of the four statutory categories because it has no physical existence. Furthermore, it would fit within the judicially recognized exception for “abstract ideas” and is nonstatutory for this additional reason. A physical signal does not fit clearly within one of the three exclusions of “laws of nature, natural phenomena or abstract ideas.” The electromagnetic wave or voltage which carries a signal is a form of natural phenomena, but the signal being carried is not naturally occurring. Some subject matter may not fall within the four statutory classes of 35 U.S.C. § 101 or within one of the exceptions. For the reasons stated above, the examiner concludes that “a data frame comprising: a transport overhead; and a synchronous payload envelope (SPE), the SPE comprising a path overhead and a payload” of claims 38 and “a data frame...” of claims 39-41 are not statutory subject matter under 35 U.S.C. § 101 because they are abstract ideas or because they do not fit within any of the statutory classes. It is noted that electrical signals had been around for a long time prior to the 1952 Act as evidenced by claim 8 in *O'Reilly v. Morse*, 56 U.S. (15 How.) 62 (1854) to the use of electromagnetism for printing intelligible characters at any distances.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 4-9, 12-17, 20, 21, 24-27, 30, and 33-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Bentall et al (U.S. Patent 6,282,170).

Bentall et al discloses the invention (**claims 1, 7, 8, 36, and 37**) as claimed including a network element arranged to be coupled within a working path of an optical network, the network element comprising:

- (a) a plurality of ports including first and second ports arranged to be coupled to optical carrier (OC) links within the working path (see Fig. 5, element LINKS, col. 6, lines 38-43).
- (b) a switch fabric connected to the plurality of ports and configured to couple the first and second ports such that data traffic received on one of the first and second ports is output on the other (see Fig. 5, element 71, col. 6, lines 30-31, 49-52,
- (c) a control unit, connected to the switch fabric, that operates to monitor for a failure within the working path and, if a failure is detected in the working path, to determine protection switching data corresponding to the failure and to insert the protection switching data within the data traffic being output from at least one of the first and second ports (see Figs. 5-8, elements 72-75, col. 6, lines 26-28, col. 7, lines 27-46, 63-67, col. 8, lines 1-23).

**Regarding claims 4, 5, 6, and 13**, Bentall et al discloses a network element further comprising:

- (a) a routing table that includes at least one protection entry (see Figs. 5-7, col. 6, lines 56-67, and col. 7, lines 1-10).
- (b) wherein to determine protection switching data corresponding to the failure, the control unit operates to look-up a protection entry within the routing table corresponding to the failure within the working path, the protection entry comprising the protection switching data (see Fig. 8, col. 7, lines 26-46).

Regarding claims 9, 12, 14, and 15, Bentall et al discloses a network element arranged to be assigned within a protection path of an optical network, the network element comprising:

- (a) a plurality of ports (see Fig. 5, element LINKS, col. 6, lines 38-43).
- (b) a switch fabric connected to each of the ports (see Fig. 5, element 71, col. 6, lines 30-31, 49-52,
- (c) a control unit, connected to the switch fabric, that operates to monitor for changes in protection switching data within data traffic received at one of the ports and, if the protection switching data has changed, to process the protection switching data in order to determine if any switching instructions relate to the network element, to reconfigure the switch fabric according to the switching instruction related to the network element such that the network element is configured within a protection path of the optical network (see Fig. 5-8, elements 72-75, col. 6, lines 26-28, col. 7, lines 27-46, 63-67, col. 8, lines 1-23).

Regarding claims 16, 17, 20, 21, 24, and 25, Bentall et al discloses a method for establishing an optical communication network of network elements and optical carrier (OC) links, the method comprising:

- (a) configuring a working path for data traffic between a first path-terminating network element and the second path terminating network element via a first set of the OC links (see Fig. 7, col. 7, lines 6-11).
- (c) assigning at least one protection path for data traffic between the first network element and the second network element via a second set of the OC links, the assigning at least one protection path comprising (see Fig. 9, col. 8, lines 5-14):
  - (c1) inserting protection entries into routing tables within network elements that can detect failure within the working path, the protection entries comprising protection switching data that indicates switch fabric modifications necessary to configure the protection path between the first network element and the second network element (see Fig. 9, col. 7, lines 66-67, and col. 8, lines 1-5).

Regarding claims 26, 27, 30, 33, 34, and 35, Bentall et al discloses an optical communication network of network elements coupled together with optical carrier (OC) links (see Fig. 5, col. 6, lines 35-37), the optical communication network comprising:

- (a) a working path comprising a first set of OC links and network elements that are configured to transmit data traffic between first and second path-terminating network elements (see Fig. 5, element LINKS, col. 6, lines 38-43).
- (b) at least one protection path comprising a second set of OC links and network elements that are assigned to transmit data traffic between the first and second path-terminating network elements if a failure is detected on the working path (see Fig. 3, col. 5, lines 48-61).

(c) wherein routing tables within the network elements of the working path comprise a protection entry that dictates switching instructions that must be applied to the network elements of the protection path to configure the protection path (see Fig. 7, col. 7, lines 6-22).

3. Claims 38-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Goodman et al. (U.S. Patent 6,636,529).

Regarding claims 38-41, Goodman et al discloses a data frame comprising:

- (a) a transport overhead (see col. 6, lines 23-24).
- (b) a synchronous payload envelope (SPE), the SPE comprising a path overhead and a payload (see col. 6, lines 25-27).
- (c) wherein protection switching data is inserted within the path overhead (see col. 6, lines 26-27).

***Allowable Subject Matter***

4. Claims 2, 3, 10, 11, 18, 19, 22, 23, 28, 29, 31, and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Phirin Sam whose telephone number is (703) 308 - 9294. The Examiner can normally be reached on Monday - Friday from 8:30AM - 4:00PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Douglas W. Olms can be reached at (703) 305 - 4703. The fax number for the organization where this application or proceeding is assigned is (703) 872 - 9306.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217 - 9197 (toll-free).

Respectfully submitted,

Date: May 12, 2004

A handwritten signature in black ink, appearing to read 'Phirin Sam', written over a horizontal line.

Phirin Sam  
Patent Primary Examiner